

Molecule to Megawatt



REMOTE TUNING SERVICES

Secure, Simple and Adaptable Remote Monitoring

The TTS Remote Tuning system offers a secure, simple and adaptable remote monitoring system that will provide a high level of remote support to a customer without the need for an engineer or operator to be present on site.

REMOTE CONNECTIVITY OVER A CELLULAR 4G LTE NETWORK

This network operates independent of the client's network, so secure network barriers are maintained. Alternatively, connectivity can be established by connecting the equipment to a secure network where specific ports are opened to allow remote connectivity.

PRE-CONFIGURED HARDWARE BY TTS

Once the system is connected, the 4G LTE router will establish a connection and provide a path for TTS personnel to connect via secure VPN. Via this VPN, TTS will have access to the connected equipment - this can be any combination of two Wi-Fi Webcams, or one KVM-Over IP [Keyboard, Video, Mouse].

NO SOFTWARE TO INSTALL

The system does not install additional software onto a client's computers. This design eliminates impact on the client's computer systems and removes software compatibility issues.

CUSTOMIZABLE

Remote Monitoring is highly customizable to fit NERC security requirements.



HOW IT WORKS

If remote tuning is being conducted, once the connection is made and tested, the remote tuner and the operator can conduct the proper dynamics checks on the combustion chamber. The Operator can also perform any changes to the fuel scheduling necessary to optimize the efficiency of the combustion system while being observed, in real time, by the Combustion Tuner.

If system troubleshooting is being performed, the connection is established, and the Operator and Remote Technician can begin the troubleshooting process. As in the above, any adjustments and reactions can be directed and monitored by remote experts, in real time.

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TWO CONFIGURATION OPTIONS FOR DLN COMBUSTION SYSTEMS

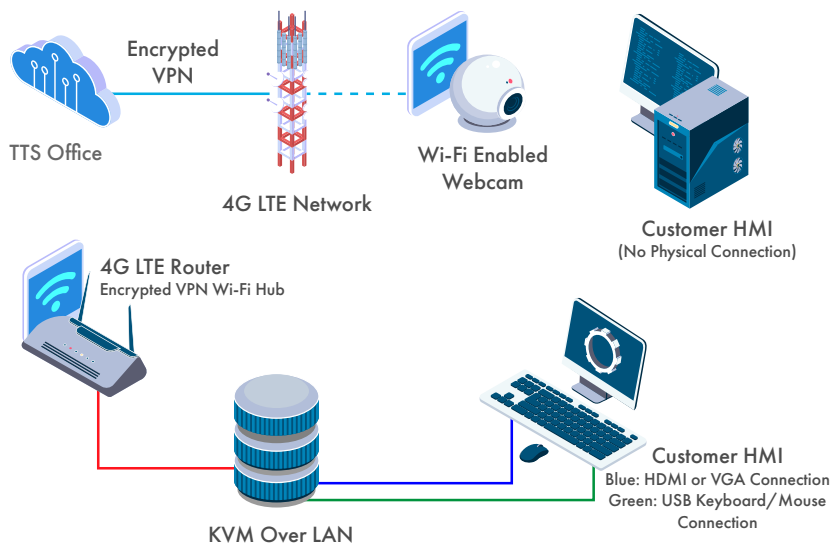
1 UTILIZE THE KVM-OVER-IP

- The remote tuner can connect to the HMI computer to monitor turbine operation and make remote tuning adjustments in real time.
- The Wi-Fi Webcams can be directed at the CEMS display screen and/or at a stand-alone CDMS display screen (if present).
- This configuration provides the tuner with all required functionality and data monitoring to remotely tune a DLN system.

2 NO KVM-OVER-IP

- The Wi-Fi Webcams can be directed at the HMI display and at the CEMS or CDMS display.
- The Webcams provide the tuner with real-time data monitoring capability required for tuning a DLN system.
- The customer would need to provide a person on-site, who would be in communication with the tuner via phone, to make the control system adjustments required for tuning, as directed by the tuner.

CONNECTION DIAGRAM



In these times of heightened security and safety, remote collaboration and support can become vital for the operation and maintenance of any automated system.

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